

What is claimed:

1. A composition comprising a sustained culture of chicken embryonic stem cells with a transgene stably integrated into the genome of substantially all of the progeny of the embryonic stem cells, wherein the embryonic stem cell progeny contribute to B lymphocytes of a chimeric chicken produced by the injection of the ES cell progeny into a chicken embryo, and wherein the transgene is comprised of an unrearranged human immunoglobulin locus encoding a human immunoglobulin heavy or light chain immunoglobulin molecule.
2. The composition of claim 1 further comprising a feeder layer of cells at a concentration of between approximately 10^3 and 10^5 cells/cm².
3. The composition of claim 2 wherein the concentration of feeder layer cells is less than 10^4 .
4. The composition of claim 2 or 3 wherein the layer of feeder cells are STO cells.
5. The composition of claim 1 further comprising BRL conditioned media.
6. The composition of claim 1 further comprising fetal bovine serum.
7. The composition of claim 1 wherein pluripotency is sustained for at least 180 days.
8. The composition of claim 1 wherein pluripotency is maintained at least 360 days.
9. The composition of claim 1, wherein the human immunoglobulin heavy chain locus is comprised of a plurality of human V genes, a plurality of human D genes, a plurality of J genes, and a human mu coding region.
10. A transgenic chicken whose genome is comprised of a transgene stably integrated into the genome of the chicken wherein the transgene is comprised of human variable, and joining regions and wherein a population of B lymphocytes of the chicken are a human immunoglobulin locus encoding a human immunoglobulin heavy or light chain immunoglobulin molecule.
11. The transgenic chicken of claim 10, wherein the transgene is comprised of a human immunoglobulin heavy chain locus comprising at least one human heavy chain V gene, at least one human heavy chain D genes, and at least one human heavy chain J gene.
12. The transgenic chicken of claim 11 wherein the transgene comprises a plurality of human heavy chain V genes.
13. The transgenic chicken of claim 11 wherein the transgene comprises a plurality of human heavy chain D genes.

14. The transgenic chicken of claim 11 wherein the transgene comprises a plurality of human heavy chain V genes.

15. The transgenic chicken of claim 11 wherein the transgene comprises a plurality of human heavy chain pseudo V genes.

16. The transgenic chicken of claim 10 wherein the B lymphocytes of the chicken undergo functional immunoglobulin gene rearrangement class switching to yield isotype G immunoglobulin molecules.

17. The transgenic chicken of claim 10 wherein the human heavy or light chain immunoglobulin molecule is deposited in the yolk of an egg produced by the transgenic chicken.

18. The transgenic chicken of claim 11 wherein the transgene comprises a plurality of human light chain pseudo V genes.

19. The transgenic chicken of claim 10 wherein the transgene is further comprised of a B lymphocyte specific regulatory region operably linked to the human immunoglobulin locus.

20. A hybridoma comprising a B cells obtained from a transgenic chicken having a genome comprising a human immunoglobulin heavy chain transgene and a human immunoglobulin light chain transgene, wherein the B cell is fused to an immortalized cell suitable for hybridoma generation and expressing an immunoglobulin molecule comprised of a human sequence light chain and a human sequence heavy chain in the absence of avian immunoglobulin molecules.